

Onramps for Local Knowledge, Traditional Knowledge, the Social Science of Local Knowledge and Traditional Knowledge, and Subsistence Information

Local Knowledge, Traditional Knowledge, and Subsistence Taskforce
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1. Introduction

In January 2020, [the Council tasked](#) the Local Knowledge (LK), Traditional Knowledge (TK), and Subsistence Taskforce (LTKTS) to “identify potential “onramps,” or points of entry, within the Council process (e.g., public testimony or analyses) for the Taskforce’s work.” This action reflects [Objective 3](#) of the LTKTS Taskforce’s report, stating the Taskforce would *provide guidance on how LK and TK, and the social science of LK and TK, could be incorporated into Council decision-making processes*. Objective 3 reflects Taskforce discussion and consensus on finding “onramps,” or points of entry (e.g., social impact assessments or public testimony), for LK and TK, and the social science of LK and TK, into the Council’s decision-making process. One question related to Objective 3 was: Where can LK and TK be utilized in existing Council processes? Objective 3 aims to facilitate the Council’s decision-making as it relates to Ecosystem Based Fishery Management (EBFM).

2. Possible Onramps or Points of Entry into the Council’s Decision-making Process

2.1 Ecosystem Status Reports (ESR)

The ESR assessment summarizes and synthesizes climate and fishing effects, both historical and future, on the eastern Bering Sea shelf and slope regions from an ecosystem perspective. The Alaska Fishery Science Center (AFSC) prepares ESRs annually and have recently taken steps to reach out to LK and TK holders to integrate these forms of knowledge into the Ecosystem Assessment portion. One recent example is the collaborative engagement of the seabird community (researchers, tribal councils, and community leaders) to derive a more robust understanding of population dynamics.

Given the ESR process is already incorporating some LK and TK into the assessments by engaging LK and TK holders, it is possible for LK and TK related to other at-risk species or populations to be collected and included. Doing so would likely require additional resources (e.g., additional expertise or redirected tasking for existing social science staff), but it would allow for in-year observations to be collected. [ESRs for the Gulf of Alaska, Bering Sea, and Aleutian Islands can be found here.](#)

2.2 Community Profiles

Starting in 2005, the AFSC compiled baseline socioeconomic information about Alaska communities (n =196) involved in commercial fisheries. Community Profiles include a wide variety of descriptive and attribute data, including: natural resources, fisheries-related infrastructure, engagement and importance of shore-based processing plants, as well as the extent to which community members participate in commercial, subsistence, or recreational fishing.

The actual process of updating Community Profiles is expensive and could potentially require additional staff expertise, depending who is building or updating the profile and whether they are trained in relevant methodologies (i.e., interviews, participant observation, or other ethnographic methods). There is an opportunity for the Taskforce to consider how to build upon the existing

Community Profile process via synthesizing existing LK and TK research specific to particular communities, or the collection of primary data via in-person interviews, focus groups, oral histories, or participant observation. Such data may include, but is not limited to, the values attached to subsistence fishery engagement, changes in patterns of subsistence and commercial resource use, as well as any corresponding changes to patterns or practices of social and cultural engagement.

Updating these profiles could provide an opportunity for more robust understandings of the human dimensions of the Bering Sea region and beyond, which would allow the Council to be more responsive to National Standards 2 and 8. Analysts often rely on Community Profiles for assessments, such as the Communities section of a Regulatory Impact Review (RIR) or a Social Impact Assessment. While it is not reasonable to expect a one-time effort to collect comprehensive LK and TK for all potentially relevant Council actions, this approach would build relationships with experts in communities. It is possible that analysts may be able to engage and collaborate with these experts in the future, pending their consent. [The current set of community profiles can be browsed here.](#) AFSC is also currently working on developing a Community Mapping Dashboard which will contain more updated information.

2.3 Ecosystem and Socioeconomic Profiles (ESPs)

ESPs are produced by stock assessment authors working closely with assigned socioeconomic experts, typically economists, at AFSC. ESPs bridge the gap between ecosystem research for a stock assessment and the broader economic systems connected to a stock. These profiles offer a consistent approach to integrating socioeconomic information alongside ecosystem information in stock assessments. ESPs use data collected from a large variety of national initiatives across regional science centers to generate a set of standardized products that culminate in a focused, succinct, and meaningful communication of potential drivers for specific stocks. The first ESP was completed in 2017 for sablefish, after which the Council recommended that ESPs be developed for priority stocks in the Alaska groundfish and crab management plans (GOA pollock, St. Matthews Blue King Crab, Pacific cod team initiated, crab team TBD). ESPs are one part of ongoing work to improve our understanding of environmental and climate forcing of ecosystem processes with a focus on variables that can provide direct input into or improve stock assessment and management. [The ESP of the Walleye Pollock stock in the Gulf of Alaska can be found here, as an example.](#)

Currently, LK, TK, and the social science of LK and TK, are not systematically considered when developing an ESP for a specific stock. There is an opportunity over the long-term for the Taskforce to provide guidance on how to incorporate such information. An ESP could be an appropriate place for LKTKS information that is stock-specific. Currently, the social science portion of the ESP process is dominated by economic indicators such as economic performance, ex-vessel value, price, etc. Community-level indicators cover the local quotient, deliveries, vessel registration, revenue, and more. Although there is willingness to incorporate LKTKS information, the Taskforce faces a challenge in providing guidance for incorporating it. First, much of the analysis and reporting for the ESP process is dominated by a quantified

indicator format. LKTKS information is not likely to be easily reduced to a +/- indicator. Additionally, ESP team authors would need to solicit LKTKS information. Without a formal, mandated process to require its inclusion, the value of this knowledge would be author or team-dependent.

2.4 Research Priorities Development

The Council's research priorities consist of a wide range of science-based needs and interests that support or improve the Council's ability to manage marine resources in federal waters off Alaska's coast and maintain sustainable fishing communities. Specific research topics are organized online through [a publicly accessible database](#) that can be queried for changes in research status and can also be downloaded completely for detailed information about all of the Council's research needs. Research topics are ranked through four priority categories: *Critical ongoing monitoring*, *Urgent*, *Important (near term)*, and *Strategic (future needs)*. These priority categories have specific [definitions](#) that emphasize correspondence of research to the Council's time horizon of management concerns.

Currently, there are no LK or TK research priorities. There are two subsistence-related priorities (ID 228 and ID 165). The Taskforce could make recommendations to the Council on the nature and scope of research priorities to be developed in the future. For example, such recommendations might include collecting LK and TK related to particular stocks or actions being undertaken by the Council. The Taskforce could also identify and recommend particular approaches that might be well-suited for such work such as participatory and qualitative methods. It should be noted that these studies should be carried out with the consent of individual participants as well as local and regional tribal councils.

2.5 Public Testimony

Public testimony is taken at Plan Team, Committee, Taskforce, and Council meetings. Currently, LK and TK are most often heard by the Council via spoken or written public testimony. This will continue to be a viable pathway for the Council to collaborate with LK and TK holders.

2.5.1 B Reports

The Council could take action to initiate a process whereby a dedicated staff person solicits or takes input from LK and TK experts on a regular basis. A similar process could be instituted for subsistence as well. (This staff person may also be dedicated to LKTKS or act as a Tribal Liaison who reports to the Council on recently collected testimony at each Council meeting.) It is reasonable to anticipate a time lag between when the Council might take action on LKTKS protocols and when there will be opportunities for collecting LKTKS information. In the short term, before work could be tasked and completed for collecting and analyzing LKTKS, this new process could allow the Council to receive and review LKTKS in a timely manner and on a regular basis. This approach would also reduce the travel and time burden for stakeholders as well as some potential discomfort related to giving public testimony to the Council. It is

envisioned that this staff member could act as a point person for LKTKS, coordinating with individual staff as appropriate or needed on specific issues and analyses.

However, including LK and TK is more than incorporating biological and environmental data about particular species. It also includes values, forms of wellbeing, sources of livelihoods and more that can lose meaning and context when separated from those individuals or communities that hold it. Retaining the relevant context is key. While a staff person or liaison may be able to synthesize LK, TK, and the social science of LK and TK, it may not be appropriate or ethical for analysts to extract bits and pieces to convey to the Council or use as a means of plugging data gaps. For this reason, it is important to maintain a do no harm approach when utilizing local and traditional knowledge. For an example of the Do No Harm approach, see the [CDA Collaborative Learning Projects](#).

2.5.2 Intro to the Council Process

Council staff have recently developed a series of materials introducing the public to the Council's process. One such outreach tool is a presentation on the Council's process, which has thus far been given by the Deputy Director. To date, the Intro to the Council Process presentation has not included a formal space for public testimony, though these presentations are interactive. It would be possible to take public testimony, or make a solicitation for LKTKS via public testimony at these outreach events in addition to the public testimony opportunities presented at Plan Team, Committee, Taskforce, or Council meetings.

2.6 Community Section for Regulatory Impact Review (RIR)

A Regulatory Impact Review (RIR) is required by Federal law and is completed by analysts before being reviewed by the Council and its Committees. An RIR organizes and analyzes relevant data on the impacts of policy options to promote evidence-based decision-making. The overarching goal of the Communities section is to provide a way for the Council to draw conclusions about how the alternatives analyzed may provide for [or put at risk] the sustained participation of fishing communities and/or minimize adverse economic impacts on such communities, per the language of National Standard 8.

In general, staff analyses have thus far focused on economic impacts (e.g., ex-vessel revenues), but there is room for LKTKS to be included in a subsection focusing on broader attribute data on communities that may be impacted (e.g., historic overview and origins of commercial fishing participation, community demographics, overview of local economy, as well as commercial and subsistence fishery engagement).

2.7 Social Impact Assessment (SIA)

Social Impact Assessments (SIAs) are tools to gauge the sociocultural impacts of particular management actions and the specified range of alternatives, and they should identify the sociocultural dimensions of the human populations likely to be impacted by regulatory action. It should project future sociocultural effects against the status quo. These considerations include:

effects of changes in resource availability or fishing practice on fishermen, communities, fishing related businesses and employment, family and other social institutions, norms, and cultural behavior.

There is an opportunity for LKTKS to be considered in a SIA for a given management action. Because SIAs should capture potential sociocultural impacts, LKTKS can make an invaluable contribution as LK and TK are based on particular values and sociocultural systems and cannot be separated from them. Incorporating LK, TK, and the social science of LK and TK, into an SIA would give the Council a clearer picture of the ways in which a management action could impact disparate populations, alter patterns of social interaction in a community or fishing fleet, impact meaningful place-making activities, or change broader cultural practices.

2.8 Standing Committee for LK, TK, and Subsistence

The Council could develop and initiate a standing LKTKS Committee as an avenue to solicit related information, review analyses, and make recommendations to the Council on discrete and appropriate actions. If such a Committee is developed, the expertise and representatives should be diverse across the Bering Sea region, LK and TK holders, and individuals actively involved with subsistence. Related, membership might primarily include local stakeholders and social science experts. This Committee could exist independently or be a subgroup under the Bering Sea Fishery Ecosystem Plan Team or the Social Science Planning Team.

The Taskforce is intended to dissolve at the completion of its work, though a standing Committee or Team of LK, TK, and subsistence experts could be created to continue to give input on research priorities and analyses. A LKTKS Committee may be able to provide guidance related to LK, TK, the social science of LK and TK, or subsistence related to specific actions, be a clear body for interested stakeholders to engage or give public testimony, and act as a review body for analyses containing these forms of knowledge. It is not envisioned that a Committee would be a standing group of LK, TK, or subsistence experts to be treated as an extractive information resource as needed (i.e., staff could not expect that body to, comprehensively, be experts on all possible issues).

2.9 Tribal, LK, or TK Representation

The Council could consider increasing tribal, TK, or LK holder representation on its current Committees or Plan Teams. This additional representation is imagined outside of, or instead of, a Standing LK, TK, or Subsistence Committee. This option would help to equalize seats for tribal voices and TK or LK holders. Among tribes, there is a strong desire to have greater say and be a part of decision-making processes. Including tribal, TK, or LK representation on existing Committees, Plan Teams, Advisory Panels and SSC would provide opportunities for additional input and review of LK, TK, and social science of LK and TK.

2.10 Teleconference Co-management

The Council could use in-season or pre-season teleconferences with regional or tribal entities related to particular species of interest. A similar process exists between the [Yukon River](#)

[Drainage Fisheries Association](#) and the [Alaska Department of Fish and Game](#) and the [US Fish and Wildlife Service](#). That particular co-management process includes in-season fishery management teleconferences to exchange information on the timing, abundance, escapement, and management strategies for salmon throughout the drainage. Utilizing a similar process for certain species, such as Norton Sound Red King Crab or halibut, could provide an opportunity for the Council to hear local observations regarding current and past environmental conditions, management strategies, and receive buy-in and feedback from local stakeholders. It is also a process by which these stakeholders can share their knowledge to participate in decision-making in a meaningful way.

Such an approach could require more time and investment from Councilmembers apart from the current five annual meeting structure. However, it is possible to imagine holding an annual meeting in concert with one of the five Council meetings. Regardless of when the meeting would occur, hosting such teleconferences requires staff resources, but using a teleconference strategy would be a new process for facilitating inclusive and adaptive Federal fishery management. If the Council wanted to try this method, a species like halibut could be initially targeted. The Council could work with regional entities like the CDQ groups to communicate with residents. For example, the Council could align a teleconference with CBSFA's annual fishermen's meeting which would provide an opportunity for many residents to participate in the decision-making process. This meeting occurs in early summer, prior to the Council making recommendations to the IPHC in December.

3. Observations of potential challenges to incorporating LK, TK, and subsistence information:

Much of the economic data that feeds into the Council's process for decision-making (e.g., ESP or EDR documents) is conveyed and utilized as indicators. LK, TK, and the social science of LK and TK, are (likely) not reducible to indicator format. This will be challenging as scientists, the Council, and its Committees all value indicators as they are more legible, reduce complexity, are built from accessible data, and are transferable or usable across reporting documents. The Taskforce may need to consider whether there are any elements of LK, TK, or the social science of LK and TK, that are suitable for indicator format, what the relevant data sources are, and how to best use the indicator data. In addition, the Taskforce may need to consider developing language that articulates the limitation of indicators for capturing sociocultural complexity.

In general, most individuals (industry stakeholders, the Council, Council committees, scientists, and analysts) engaged in the Council's process are not social scientists. There has been a discursive blending of "socioeconomic," but the work and analysts completed under this terminology has been heavily dominated by economic science. The Taskforce is mandated by the Council, and responsive to it, but the group should keep in mind that substantive guidance on the importance of LK, TK, the social science of LK and TK, as well as subsistence information should be applicable to all individuals or agencies involved in the Council process. More specifically, the Taskforce might consider how to 'convince' economists who are conducting a majority of the social science, the utility of LK, TK and social science of them, and how they might incorporate

them.

The Council's decision-making is guided by Federal law, and it will be sensitive to language that is action-enforcing. Similarly, the Taskforce may consider or provide language as appropriate stating that LK, TK, and the social science of them, is to be one additional component to its decision-making. (The co-chairs received a question from the AP as to whether or not we expected the Council to make decisions purely on social science. No - and the entirety of their decisions are not purely biological or economic in nature either).

The Taskforce will have to grapple with timescale issues. The scientific process supporting the Council is designed for consistency and timeliness. How can we ensure LK, TK, and the social science of LK and TK, are meaningfully included when collecting these forms of information may not be compatible with model timescales (i.e., take longer)? If these forms of knowledge and information are not totally compatible with the existing process, how do we teach the value of them?

4. Discussion Questions

1. What are the most appropriate onramps for LK, TK, or the social science of LK and TK? (might require the least translation into indicator format, for example)
2. What are the most useful onramps for LK, TK, or the social science of LK and TK (from multiple perspectives)?
3. Are there any types of documents or analyses that are best (or worst) suited for LK, TK, or the social science of LK and TK?
4. How to approach the indicator issue?

Table 1. Current Fishery Management Activities and Potential Onramps for LK, TK, and Subsistence Information

Management Function	Activities	Description of Activities	Where is there room for collaboration with LKTKS in the Council's current process?
1. Assessing resource abundance and management needs	Stock assessment	Estimating abundance of resources to be harvested (e.g., through sampling programs, modelling of stock dynamics, and scoping related issues/problems)	Public testimony at Plan Team, Committee, and Council meetings ESP (stock specific) Assessment model
	Research	Biology/life history, productive capacity, impacts mitigations, restoration methods, and use	Community Profiles ACEPO Research Priority recommendations Standing Committee Tribal, LK, TK Representation
	Status and monitoring	Tracking the longer-term condition of the resource and its habitat (e.g., Ecosystem Status Reports)	Ecosystem Status Reports
2. Making Management Decisions	Setting management objectives and the range of alternatives	Defining a problem statement; determining the desired outcomes from the decisions, including ecological, economic, and social goals	Discussion papers Communities section for RIR Social Impact Assessments Standing Committee
	Harvest allocations	Making rules about catch limits, size limits, location, timing, gear; and about proportions among harvesters	Discussion papers Communities section for RIR Social Impact Assessments
3. Monitoring and Enforcement	Enforcement	Activities or procedures related to ensuring decisions/rules are adhered to	N/A? Action informing FEP not enforcing

	Monitoring	Fishery monitoring, including catch accounting, whether decisions were implemented as intended, the effects of the management action over time (e.g., on habitat or resource access)	
4. Outreach and Engagement	Outreach	Activities to increase broader public awareness of the Council's process and objectives, decisions, etc.	Standing Committee B Reports Intro to the Council Process LK, TK, and/or Tribal Liaison
	Capacity building	Activities aimed at increasing the capacity of participants to engage as needed in research, harvesting, monitoring, etc.	Standing Committee Tribal, LK, TK Representation Intro to the Council Process LK, TK, and/or Tribal Liaison

*Some elements from Table 1 modified from Table 1.1 in PFRCC (2011)

Figure 1. Onramps visualization. This illustration is meant to outline the four management functions from **Table 1** and possible entry points for various forms of social data. The different forms of information are shown in the panel on the right side of the figure and each has numbers associated with possible entry points. **Note, this is a rough draft.**

